Pythagorean Theorem - Teacher's Notes

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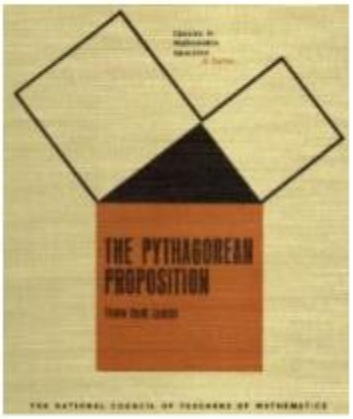
The Pythagorean Proposition by an early 20th century professor Elisha Scott Loomis was a great book of 367 proofs of the Pythagorean Theorem and was republished by NCTM in 1968. I used this book early in my teaching career and I found it very exciting to find how this theorem has motivated famous mathematicians, scientists, politicians, young men and women, and children.



So often, in mathematics, the proof comes first in an algebraic form. Now with the recommendation to use multiple representations in mathematics, we are encouraged to investigate our ideas through hands-on activities, visual representations, and technology. I am, as many of my students are, visual learners. Many of the proofs in this book are fun and challenging in a visual way and can be backed up with the algebraic representations that make sense to the visual/kinesthetic learner once the "puzzle" is solved.

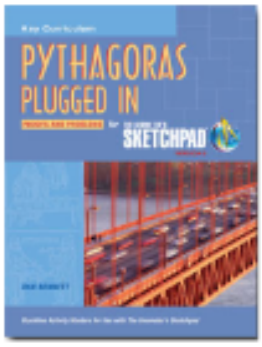
Using the Pythagorean Puzzles on a SMART Board

Viewing this file is best in View >Zoom >Single Page Display. Besides using the SMART board, consider printing out the puzzles (puzzles can be found as a .pdf file as well), hand out scissors and tape/glue, and let students do them as hands-on activities. Students can then use the SMART board to share their discoveries.

Take time to explore the algebraic proofs once the "puzzles" are solved to make the activities an even richer mathematical investigation/activity.

Resources

98 Proofs of the Pythagorean Theorem and many with Java apps as well as their algebraic proofs
http://www.cut-the-knot.org/pythagoras/index.shtml



Pythagoras Plugged In: Proofs and Problems for The Geometer's Sketchpad

This book is great with or without using Geometer's Sketchpad! Even better, use the SMART Notebook's Transparent view AND Geometer's Sketchpad to investigate these proofs.
http://www.keycurriculum.com/resources/sketchpad-resources/activity-modules/high-school-activity-modules-for-the-geometers-sketchpad

The Pythagorean Proposition

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http://www.amazon.com/exec/obidos/ISBN=0873530365/ctksoftwareincA/